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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,408	09/26/2001	Ludo Adriaensen	016782-0235	1783

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EXAMINER	
SALVATORE, LYNDA	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/890,408	ADRIAENSEN ET AL.	
	Examiner	Art Unit	
	Lynda M Salvatore	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's remarks filed 09/03/04 have been fully considered and entered. Applicant's arguments with respect to the rejection of claims 1-20 have been considered and found persuasive. However, Applicant's arguments are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2,6-11,13-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Zeng et al., US 5,807,430

The published PCT application to Adriaensen et al., teaches a fabric canvass reinforcement comprising at least one warp and weft formed by a strip which comprises a matrix of thermoplastic material which is adherable to the plastic coating of the canvass (Abstract and Page 3, 5-6). The strips are made from two or more elongated metal members with an average thickness ranging from .50 mm to 3.0mm and are preferably located parallel in the plane of the strip (Page 3, 6-16). Suitable metal materials include steel, copper or a low carbon steel wire with a carbon content below .4% (Page 5, 6-15). The steel wire may be flat or round (Page 5, 16). Adriaensen et al., specifically teaches that low carbon steel wires have a much smoother surface and as a result do not adhere well to the thermoplastic matrix material (Page 5, 17-21). Adriaensen et al., does teach that copper or steel wires are less flexible than cords, however, Adriaensen et al., further discloses that said wires are less expensive. The breaking load of the metal members in

one single strip is preferably higher than 2000 Newton (Page 7, 10-11). The polyvinylchloride compound matrix material is extruded on the metal strip (Page 9, 28-Page 6, 2).

With regard to the coating the metal cords with primer, Applicant argues that the Adriaensen et al., teaches a suitable configuration which does not require primer coating the metal cords. As such, Applicant argues that the relied upon reference of Adriaensen et al., teaches away from primer coating the metal members. This argument is not found persuasive on the grounds that it is the position of the Examiner that primer coating metals prior to the application of any thermoplastic material is commonly known in the art. Adriaensen et al., discloses that less expensive wires do not adhere well to the thermoplastic matrix material. Thus, though the copper or steel wires are not necessarily preferred over steel cords, it is the position of the Examiner that it would be improper to ignore such a disclosure. Furthermore, the Examiner submits that one of ordinary skill in the art would be motivated to look to the prior art to find ways to increase the bond strength between less expensive substrate materials (i.e., wires) and matrix material to produce a more cost effective reinforcement canvass. To that end, the patent issued to Zeng et al., teaches treating metal surfaces prior to bonding with other materials such as rubber, polymers, sealants or coatings for the purpose of enhancing the strength of the bond and to provide prolong useful life in corrosive environments (Column 2, 46-50). Zeng et al., specifically teaches treating the metal surface with a compound comprising organoalkoxysilane having silane coupling functional groups (Column 2, 54-60).

Therefore, motivated by the desire to facilitate the adhesion between the metal member and the thermoplastic matrix material it would have been obvious to one having

ordinary skill in the art at the time the invention was made to coat the metal members of Adriaensen et al., with the organoalkoxysilane compound taught by Zeng et al.

With regard to claim 13, Adriaensen et al., teaches steel, copper or a low carbon steel wire with carbon content below .4%, but fails to teach a content of at least .4%. However, it is the position of the Examiner that the Office recognizes no difference between "below" .4 and "at least" .4. It has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

4. Claims 1-2,4-5, 7-11,13-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Czerwinski, US 4,308,365.

The published PCT application to Adriaensen et al., teaches a fabric canvass reinforcement comprising at least one warp and weft formed by a strip which comprises a matrix of thermoplastic material which is adherable to the plastic coating of the canvass (Abstract and Page 3, 5-6). The strips are made from two or more elongated metal members with an average thickness ranging from .50 mm to 3.0mm and are preferably located parallel in the plane of the strip (Page 3, 6-16). Suitable metal materials include steel, copper or a low carbon steel wire with a carbon content below .4% (Page 5, 6-15). The steel wire may be flat or round (Page 5, 16). Adriaensen et al., specifically teaches that low carbon steel wires have a much smoother surface and as a result do not adhere well to the thermoplastic matrix material (Page 5, 17-21). Adriaensen et al., does teach that copper or steel wires are less flexible than cords, however, Adriaensen et al., further discloses that said wires are less expensive. The breaking load of the metal members in

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With regard to the coating the metal cords with primer, Applicant argues that the Adriaensen et al., teaches a suitable configuration which does not require primer coating the metal cords. As such, Applicant argues that the relied upon reference of Adriaensen et al., teaches away from primer coating the metal members. This argument is not found persuasive on the grounds that it is the position of the Examiner that primer coating metals prior to the application of any thermoplastic material is commonly known in the art. Adriaensen et al., discloses that less expensive wires do not adhere well to the thermoplastic matrix material. Thus, though the copper or steel wires are not necessarily preferred over steel cords, it is the position of the Examiner that it would be improper to ignore such a disclosure. Furthermore, the Examiner submits that one of ordinary skill in the art would be motivated to look to the prior art to find ways to increase the bond strength between less expensive substrate materials (i.e., wires) and matrix material to produce a more cost effective reinforcement canvass. To that end, the patent issued to Czerwinski teaches a reactive adhesive used to bond rubber to metal (Abstract). Czerwinski teaches that the adhesive provides environmental, weather, ultraviolet, chemical and thermal resistance properties (Abstract). Czerwinski teaches the adhesive may be applied as hot melt coating (Column 2, 50-55). Czerwinski teaches the adhesive comprises copolymers of ethylene (Column 3, 5-15).

Therefore, motivated by the desire to facilitate the adhesion between the metal member and the thermoplastic matrix material it would have been obvious to one having

ordinary skill in the art at the time the invention was made to coat the metal members of Adriaensen et al., with the reactive adhesive compound taught by Czerwinski.

With regard to claim 13, Adriaensen et al., teaches steel, copper or a low carbon steel wire with carbon content below .4%, but fails to teach a content of at least .4%. However, it is the position of the Examiner that the Office recognizes no difference between "below" .4 and "at least" .4. It has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

5. Claims 1-3, 7-11,13-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Daisel LTD, JP 52126465A .

The published PCT application to Adriaensen et al., teaches a fabric canvass reinforcement comprising at least one warp and weft formed by a strip which comprises a matrix of thermoplastic material which is adherable to the plastic coating of the canvass (Abstract and Page 3, 5-6). The strips are made from two or more elongated metal members with an average thickness ranging from .50 mm to 3.0mm and are preferably located parallel in the plane of the strip (Page 3, 6-16). Suitable metal materials include steel, copper or a low carbon steel wire with a carbon content below .4% (Page 5, 6-15). The steel wire may be flat or round (Page 5, 16). Adriaensen et al., specifically teaches that low carbon steel wires have a much smoother surface and as a result do not adhere well to the thermoplastic matrix material (Page 5, 17-21). Adriaensen et al., does teach that copper or steel wires are less flexible than cords, however, Adriaensen et al., further discloses that said wires are less expensive. The breaking load of the metal members in

one single strip is preferably higher than 2000 Newton (Page 7, 10-11). The polyvinylchloride compound matrix material is extruded on the metal strip (Page 9, 28-Page 6, 2).

With regard to the coating the metal cords with primer, Applicant argues that the Adriaensen et al., teaches a suitable configuration which does not require primer coating the metal cords. As such, Applicant argues that the relied upon reference of Adriaensen et al., teaches away from primer coating the metal members. This argument is not found persuasive on the grounds that it is the position of the Examiner that primer coating metals prior to the application of any thermoplastic material is commonly known in the art. Adriaensen et al., discloses that less expensive wires do not adhere well to the thermoplastic matrix material. Thus, though the copper or steel wires are not necessarily preferred over steel cords, it is the position of the Examiner that it would be improper to ignore such a disclosure. Furthermore, the Examiner submits that one of ordinary skill in the art would be motivated to look to the prior art to find ways to increase the bond strength between less expensive substrate materials (i.e., wires) and matrix material to produce a more cost effective reinforcement canvass. To that end, the Japanese patent abstract to Daisel LTD teaches coating a metal with a primer containing organic solvent, curing the primer, and then extruding the thermoplastic resin. Suitable primer materials include polyvinylchloride (PVC), epoxy-phenol or polybutadiene dissolved in organic solvent (Abstract).

Therefore, motivated by the desire to facilitate the adhesion between the metal member and the thermoplastic matrix material it would have been obvious to one having

ordinary skill in the art at the time the invention was made to coat the metal members of in the Adriaensen et al., with the expoxy-phenol primer material taught by Daisel LTD.

With regard to claim 13, Adriaensen et al., teaches steel, copper or a low carbon steel wire with carbon content below .4%, but fails to teach a content of at least .4%. However, it is the position of the Examiner that the Office recognizes no difference between "below" .4 and "at least" .4. It has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682, in view of Zeng et al., US 5,807,430 or Czerwinski, US 4,308,365 or Daisel LTD, JP 52126465A as applied to claim 1, and further in view of Carey, II et al., US 5,489,490.

The combination of prior art fails to teach coating the steel or low carbon steel materials with zinc or a zinc alloy layer, however, the patent issued to Carey, II et al., specifically teaches that a tin-zinc coating when applied to stainless steel or low carbon steel materials, imparts highly corrosion resistant properties (Column 4, 56-61).

Therefore, motivated by the desire to provide a fabric canvass reinforcement, which is highly resistant to corrosion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the coated the metal members of Adriaensen et al and Bailey et al., with a layer of the tin-zinc coating taught by Carey, II et al.

Allowable Subject Matter

7. Claim 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, the prior art of record fails to teach or fairly suggest a metal member having the claimed rounded I-profile. An updated search did not produce any new substantial art for which to base a rejection and presently no motivation exists to combine references to form an obvious type rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1482. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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